# **AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions, and listings, of claims in the application.

## 1. (Currently amended) A compound of the formula <u>I or II</u>:

wherein

n is 1 or 2;

R<sup>28</sup> and R<sup>43</sup> are independently selected from the group consisting of H and a substituted or unsubstituted aliphatic or acyl moiety an aliphatic, acyl, aroyl or heteroaroyl moiety;

one of  $R^{7a}$  and  $R^{7b}$  is H and the other is halo,  $-R^A$ ,  $-OR^A$ ,  $-SR^A$ ,  $-OC(O)R^A$ ,  $-OC(O)NR^AR^B$ ,  $-NR^AR^B$ ,  $-NR^BC(O)R^A$ ,  $-NR^BC(O)OR^A$ ,  $-NR^BSO_2R^A$ , or  $-NR^BSO_2NR^AR^B$  or  $-NR^BC(O)NR^AR^B$ ; or  $R^{7a}$  and  $R^{7b}$  taken together, are H in the tetraene moiety:

where R<sup>A</sup> is H or <u>an</u> a substituted or unsubstituted aliphatic, heteroaliphatic, aryl, or heteroaryl moiety; and

where R<sup>B</sup> is H, OH or <u>an a substituted or unsubstituted</u> aliphatic, heteroaliphatic, aryl, or heteroaryl moiety;

where each aliphatic moiety is an independently chosen saturated or unsaturated, branched or unbranched, cyclic or polycyclic, aliphatic hydrocarbon containing 1-8 contiguous aliphatic carbon atoms;

where each heteroaliphatic moiety is an independently chosen 2-8-membered non-cyclic or 3-10-membered cyclic aliphatic moiety which contains one or more oxygen, sulfur, nitrogen, phosphorous or silicon atoms;

where each aryl moiety is an independently chosen 6-14-membered mono- or polycyclic unsaturated moiety;

where each heteroaryl moiety is an independently chosen 5-6-membered monocyclic or 9-14-membered polycyclic unsaturated moiety which contains one or more oxygen, sulfur or nitrogen atoms; and

where each acyl moiety is an independently chosen -OCR group where R is an aliphatic, heteroaliphatic, aryl, or heteroaryl moiety;

or a pharmaceutically acceptable derivative salt thereof.

2. (Currently amended) The compound of claim 1 wherein n is 2,  $R^{28}$  is H,  $R^{7a}$  is -OMe,  $R^{7b}$  is H and  $R^{43}$  is an aliphatic moiety.

- 3. (Currently amended) The compound of claim 1 or 2 wherein  $R^{7a}$  is -OMe and  $R^{7b}$  is H.
- 4. (Currently amended) The compound of any of claims 1-3 claim 1 wherein R<sup>28</sup> is H.
- 5. (Currently amended) The compound of any of claims 1-4 claim 1 wherein R<sup>43</sup> is H.
- 6. (Currently amended) The compound of any of claims 1, 2, 4 or 5 claim 1 wherein either  $R^{7a}$  is a moiety other than -OMe or  $R^{7b}$  is a moiety other than H.
- 7. (Currently amended) The compound of claim 6 wherein one of  $R^{7a}$  and  $R^{7b}$  is  $NR^BC(O)R^A$ , - $NR^BC(O)OR^A$ , - $NR^BSO_2R^A$ , or - $NR^BSO_2NR^AR^B$  or - $NR^BC(O)NR^AR^B$ .
- 8. (Original) The compound of claim 7 in which R<sup>B</sup> is H, OH or alkyl.
- 9. (Currently amended) The compound of any of claims 1-4 and 6-8 claim 1 wherein R<sup>43</sup> is an aliphatic moiety.
- 10. (Currently amended) The compound of claim 9 wherein R<sup>43</sup> is an optionally substituted alkyl moiety.
- 11. (Original) The compound of claim 10 wherein the alkyl moiety is a hydroxyalkyl moiety.
- 12. (Currently amended) The compound of claim 9 wherein R<sup>43</sup> is an optionally substituted alkenyl moiety.
- 13. (Currently amended) The compound of claim 12 wherein the alkenyl moiety is an allyl or substituted allyl group.
- 14. (Currently amended) The compound of any of claims 1-4 and 6-8 claim 1 wherein R<sup>43</sup> is an acyl moiety.

### 15. (Canceled)

- 16. (Currently amended) The compound of claim  $\underline{14}$   $\underline{15}$  wherein  $R^{43}$  is an acyl moiety of the formula  $R^AR^BN$ -alkyl-C(O)-.
- 17. (Original) The compound of claim 2, wherein R<sup>28</sup> and R<sup>43</sup> are H, R<sup>7a</sup> is -OMe, and R<sup>7b</sup> is H.
- 18. (Currently amended) The compound of any of claims 6-8 claim 6 wherein n is 2, and  $R^{28}$  and  $R^{43}$  are H.
- 19. (Currently amended) The compound of any of claims 1, 3-14, 16, 22, 23, 89 or 90 9-18 wherein n is  $2, R^{28}$  is H,  $R^{7a}$  is OMe and  $R^{7b}$  is H.

### 20-21. (Canceled)

- 22. (Currently amended) The compound of claim  $\underline{1}$  20 or 21 wherein the compound has the formula II in which  $-OR^{43}$  is in the S orientation.
- 23. (Currently amended) The compound of claim  $\underline{1}$ ,  $\underline{20}$  or  $\underline{21}$  wherein the compound has the formula II in which  $-OR^{43}$  is in the R orientation.

#### 24-40. (Canceled)

- 41. (Currently amended) A composition comprising a compound of any of claims 1-40 1-18, 22-23, 89 or 90 and and one or more pharmaceutically acceptable carriers, diluents or excipients.
- 42. (Currently amended) A method for epimerizing the hydroxy group of an aldol moiety producing a compound of claim 1 which comprises contacting a homologous C28 epimer

compound containing an aldol moiety with a titanium tetraalkoxide reagent under suitable conditions and for a sufficient time to permit epimerization.

- 43. (Original) The method of claim 42 wherein the titanium tetraalkoxide reagent is titanium tetraisopropoxide.
- 44. (Currently amended) The method of <u>claim 42 claims 42 or 43</u> which further comprises recovering the epimerized product.
- 45. (Currently amended) The method of any of claims 42-44 wherein the aldol-containing homologous C28 epimer compound is rapamycin or a rapamycin derivative or analog.

### 46-77. (Canceled)

- 78. **(New)** The compound of any of claims 1-18, 22-23, 89 or 90 wherein each aliphatic, acyl, aroyl, heteroaroyl, heteroaliphatic, aryl or heteroaryl moiety contains one or more optional substituents selected from the group consisting of -OH, -OR $^2$ , -SH, -SR $^2$ , -CHO, =O, -COOH (or ester, carbamate, urea, oxime or carbonate thereof), -NH $_2$  (or substituted amine, amide, urea, carbamate or guanidino derivative thereof), halo, trihaloalkyl, cyano, -SO $_2$ -CF $_3$ , -OSO $_2$ F, -OS(O) $_2$ R $^{11}$ , -SO $_2$ -NHR $^{11}$ , -NHSO $_2$ -R $^{11}$ , sulfate, sulfonate, aryl and heteroaryl moieties; where R $^2$  is an aliphatic, heteroaliphatic, aryl, heteroaryl or alkylaryl moiety; and where R $^{11}$  is H or an aliphatic, heteroaliphatic, aryl or heteroaryl moiety.
- 79. **(New)** The compound of any of claims 1-18, 22-23, 89 or 90 wherein each aroyl, heteroaroyl, aryl or heteroaryl moiety contains one or more optional substituents selected from the group consisting of hydroxy, C1-C8 alkoxy, C1-C8 branched or straight-chain alkyl, acyloxy, carbamoyl, amino, N-acylamino, nitro, halo, trihalomethyl, cyano, and carboxyl.
- 80. (New) The compound of any of claims 10, 12 or 14 wherein each alkyl, alkenyl or acyl moiety contains one or more optional substituents selected from the group consisting of -OH, -OR<sup>2</sup>, -SH, -SR<sup>2</sup>, -CHO, =O, -COOH (or ester, carbamate, urea, oxime or carbonate thereof), -

 $NH_2$  (or substituted amine, amide, urea, carbamate or guanidino derivative thereof), halo, trihaloalkyl, cyano,  $-SO_2-CF_3$ ,  $-OSO_2F$ ,  $-OS(O)_2R^{11}$ ,  $-SO_2-NHR^{11}$ ,  $-NHSO_2-R^{11}$ , sulfate, sulfonate, aryl and heteroaryl moieties; where  $R^2$  is an aliphatic, heteroaliphatic, aryl, heteroaryl or alkylaryl moiety; and where  $R^{11}$  is H or an aliphatic, heteroaliphatic, aryl or heteroaryl moiety.

- 81. (New) 28-epirapamycin or a pharmaceutically acceptable salt thereof.
- 82. (New) 29-epirapamycin or a pharmaceutically acceptable salt thereof.
- 83. (New) 28, 29-bis-epirapamycin or a pharmaceutically acceptable salt thereof.
- 84. (New) The compound of any of claims 81-83 in which the hydroxyl group at position 43 is replaced with OR<sup>43</sup> wherein R<sup>43</sup> is an aliphatic, acyl, aroyl or heteroaroyl moiety; where an aliphatic moiety is a saturated or unsaturated, branched or unbranched, cyclic or polycyclic, aliphatic hydrocarbon containing 1-8 contiguous aliphatic carbon atoms; where a heteroaliphatic moiety is a 2-8-membered non-cyclic or 3-10-membered cyclic aliphatic moiety which contains one or more oxygen, sulfur, nitrogen, phosphorous or silicon atoms; where an aryl moiety is a 6-14-membered mono- or polycyclic unsaturated moiety; where a heteroaryl moiety is a 5-6-membered monocyclic or 9-14-membered polycyclic unsaturated moiety which contains one or more oxygen, sulfur or nitrogen atoms; and where an acyl moiety is an -OCR group where R is an aliphatic, heteroaliphatic, aryl, or heteroaryl moiety.
- 85. **(New)** The compound of claim 84 wherein each aliphatic, acyl, aroyl or heteroaroyl moiety contains one or more optional substituents selected from the group consisting of -OH, -OR<sup>2</sup>, -SH, -SR<sup>2</sup>, -CHO, =O, -COOH (or ester, carbamate, urea, oxime or carbonate thereof), -NH<sub>2</sub> (or substituted amine, amide, urea, carbamate or guanidino derivative thereof), halo, trihaloalkyl, cyano, -SO<sub>2</sub>-CF<sub>3</sub>, -OSO<sub>2</sub>F, -OS(O)<sub>2</sub>R<sup>11</sup>, -SO<sub>2</sub>-NHR<sup>11</sup>, -NHSO<sub>2</sub>-R<sup>11</sup>, sulfate, sulfonate, aryl and heteroaryl moieties;

where R<sup>2</sup> is an aliphatic, heteroaliphatic, aryl, heteroaryl or alkylaryl moiety; and where R<sup>11</sup> is H or an aliphatic, heteroaliphatic, aryl or heteroaryl moiety.

- 86. (New) The compound of claim 84 wherein each aroyl or heteroaroyl moiety contains one or more optional substituents selected from the group consisting of hydroxy, C1-C8 alkoxy, C1-C8 branched or straight-chain alkyl, acyloxy, carbamoyl, amino, N-acylamino, nitro, halo, trihalomethyl, cyano, and carboxyl.
- 87. **(New)** The compound of claim 84 wherein R<sup>43</sup> is a hydroxyalkyl moiety that contains one or more optional substituents selected from the group consisting of -OH, -OR<sup>2</sup>, -SH, -SR<sup>2</sup>, -CHO, =O, -COOH (or ester, carbamate, urea, oxime or carbonate thereof), -NH<sub>2</sub> (or substituted amine, amide, urea, carbamate or guanidino derivative thereof), halo, trihaloalkyl, cyano, -SO<sub>2</sub>-CF<sub>3</sub>, -OSO<sub>2</sub>F, -OS(O)<sub>2</sub>R<sup>11</sup>, -SO<sub>2</sub>-NHR<sup>11</sup>, -NHSO<sub>2</sub>-R<sup>11</sup>, sulfate, sulfonate, aryl and heteroaryl moieties; where R<sup>2</sup> is an aliphatic, heteroaliphatic, aryl, heteroaryl or alkylaryl moiety; and where R<sup>11</sup> is H or an aliphatic, heteroaliphatic, aryl or heteroaryl moiety.
- 88. (New) The compound of claim 84 wherein  $R^{43}$  is an acyl moiety that contains one or more optional substituents selected from the group consisting of -OH, -OR<sup>2</sup>, -SH, -SR<sup>2</sup>, -CHO, =O, -COOH (or ester, carbamate, urea, oxime or carbonate thereof), -NH<sub>2</sub> (or substituted amine, amide, urea, carbamate or guanidino derivative thereof), halo, trihaloalkyl, cyano, -SO<sub>2</sub>-CF<sub>3</sub>, -OSO<sub>2</sub>F, -OS(O)<sub>2</sub>R<sup>11</sup>, -SO<sub>2</sub>-NHR<sup>11</sup>, -NHSO<sub>2</sub>-R<sup>11</sup>, sulfate, sulfonate, aryl and heteroaryl moieties; where  $R^2$  is an aliphatic, heteroaliphatic, aryl, heteroaryl or alkylaryl moiety; and where  $R^{11}$  is H or an aliphatic, heteroaliphatic, aryl or heteroaryl moiety.
- 89. (New) The compound of claim 1, wherein the compound has the formula I.
- 90. (New) The compound of claim 1, wherein the compound has the formula II.